The State of New Hampshire
Department of Environmental Services

Michael P. Nolin
Commissioner

January 10, 2006

The Honorable Lawrence C. Ross, Chairman
Science, Technology, and Energy Committee
Legislative Office Building, Room 304
Concord, New Hampshire 03301

Re: HB 1163 - An Act relative to establishing a commission to study the feasibility of developing a conversion system for motor vehicles to operate on multiple fuels

Dear Chairman Ross and Members of the Committee:

The New Hampshire Department of Environmental Services (NHDES) is writing to provide information regarding House Bill 1163. NHDES supports programs designed to increase the use of alternative fuel vehicles (AFVs) because the majority of AFVs emit fewer air pollutants than conventional vehicles. As this committee is aware, motor vehicles are the primary source of ground level ozone precursor pollutants in the Northeast.

Since 1997, NHDES has collaborated with the New Hampshire Office of Energy and Planning on two programs aimed at increasing the use of alternative fuels in New Hampshire, the state government Alternative Fuel Vehicle Project that assists state agencies with the increased cost of purchasing AFVs and associated refueling infrastructure, and the Granite State Clean Cities Coalition, a statewide public-private partnership dedicated to increasing the use of alternative fuels in both governmental and private vehicle fleets. Should a committee be established to study the advisability of pursuing this action pursuant to this bill NHDES offers this information to ensure any course of action they pursue is in compliance with the Clean Air Act and other federal regulations.

The US Department of Energy classifies all of the following fuels as "alternative fuels": natural gas, liquefied petroleum gas (propane), hydrogen, biodiesel, ethanol, methanol, and P-series. Of these, compressed natural gas and propane are the fuels that are the subject of most vehicle conversions. Converted vehicles may be "dedicated," which means that they operate only on an alternative fuel, or "dual-fuel," which means that they can operate on either an alternative fuel or gasoline (or diesel), with separate tanks and fuel systems for each fuel. "Bi-fuel" vehicles are designed to run on combinations of an alternative fuel with a conventional fuel such as gasoline. Unlike dual-fuel systems, which allow the use of only one fuel at a time, bi-fuel systems supply both fuels into the combustion chamber at the same time.

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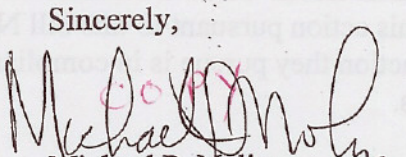
In order to comply with the Clean Air Act, AFVs today must be either factory equipped to use alternative fuels and thus certified by the Original Equipment Manufacturer (OEM) to meet federal emission standards, or they must have been converted to operate on an alternative fuel by a fuels converter holding a Certificate of Conformity from the Environmental Protection Agency (EPA) in compliance with Memorandum 1A (attached). The certificate holder is essentially certified by EPA as a "small volume manufacturer." An individual or entity that wishes to have a vehicle converted to operate on an alternative fuel must do so through a company or organization associated with a certificate holder. Examples of types of companies or organizations that hold Certificates of Conformity issued by EPA include the designer of the conversion equipment, the producer or manufacturer of the equipment, and the person or entity that plans to perform installations. It is the responsibility of the certificate holder to ensure through adequate testing that the equipment is properly installed and that the system is safe, durable, and results in the vehicle meeting, at a minimum, the emission standards of the original model year of the vehicle.

House Bill 1163 creates a committee to study the potential for converting existing vehicles to operate on multiple fuels. As noted, NHDES supports programs designed to increase the number of AFVs in New Hampshire. Currently all AFVs in the state fleet are OEM manufactured vehicles. With the decline in offerings of OEM AFVs (Ford no longer offers OEM alternative fuel vehicles and General Motors is decreasing their offerings in the 2007 model year), NHDES does expect to see an increased interest in vehicle conversions in the coming years. NHDES stands ready to serve as a resource and provide any further information on state efforts or federal regulatory issues related to alternative fuels as requested by the General Court.

NHDES appreciates the opportunity to provide testimony related to House Bill 1163. Should you require further information or assistance please do not hesitate to contact or Rebecca E. Ohler, Mobile Source Planning Unit (271-6749, rohler@des.state.nh.us).

Sincerely,



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cc: Members of the Science, Technology & Energy Committee

EC-P-1998-158

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 1 1998

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

Revision to Addendum to Mobile Source Enforcement Memorandum 1A

SUBJECT: Revised Tampering Enforcement Policy for Alternative Fuel Conversions

A. Purpose: The purpose of this document is to revise the tampering enforcement policy for alternative fuel conversions as currently provided in the U.S. Environmental Protection Agency's (EPA) Addendum to Memorandum 1A in response to comments and suggestions received by the regulated community and other stakeholders.

B. Background: EPA issued an Addendum to Mobile Source Enforcement Memorandum 1A (Addendum) on September 4, 1997, to address emissions increases that resulted from the conversion of gasoline powered vehicles and engines to operate on compressed natural gas (CNG) and liquefied petroleum gasoline (LPG or propane). The background and basis for the issuance of the Addendum and the contents of the new policy are fully contained in the Addendum. Since issuance of the Addendum, EPA has received a number of inquiries and recommendations that certain revisions to the policy would be in the public interest while not jeopardizing the effectiveness of the Addendum. EPA believes some of those suggestions are appropriate and is revising the Addendum as described below.

C. Revised Policy: Effective immediately, the Addendum to Memorandum 1A is revised as follows:

1. In lieu of meeting the testing requirements under Options 1, 2 or 3 of the Addendum for model year 1997 and older motor vehicles and engines, compliance with the requirements for demonstrating a "reasonable basis" may be achieved by completing back-to-back I/M 240 emissions tests as contained in 40 CFR Part 51, Subpart S, for each converted vehicle using gasoline in the vehicle or engine's original configuration and with each operational fuel after conversion provided:

(a) All tests are conducted in accordance with the specified protocols under 40 CFR Part 51, Subpart S,

(b) The vehicle as tested in the original configuration with gasoline meets the applicable standards under 40 CFR 51.351,

(c) The exhaust emissions of each regulated pollutant after conversion using the alternative fuel are no greater than .90 times the emissions levels for each pollutant before conversion, except that no hydrocarbon standard shall apply for operation exclusively using CNG,

(d) If dual fuel operation is retained, the exhaust emissions of each regulated pollutant after conversion using the original certification fuel are no greater than the emissions levels for each pollutant before conversion, and

(e) No party shall convert more than 25 vehicles or engines of any single vehicle/engine family combination in any calendar year under this I/M 240 protocol.

2. The final date for both testing and installations under Option 3 of the Addendum is extended from April 24, 1998 and December 31, 1998, respectively, to June 30, 2000, for up to and including 1999 model year vehicles and engines. All alternative fuel conversions of model years 2000 and later vehicles and engines and conversions of model year 1998 and 1999 vehicles and engines after June 30, 2000, may only be performed in accordance with Options 1 or 2 of the Addendum.

3. As an alternate to engine dynamometer testing for heavy duty engine conversions under Option 3 for a specific heavy duty engine family, the manufacturer may demonstrate a "reasonable basis" by performing back-to-back chassis dynamometer emission tests in accordance with the Urban Dynamometer Driving Schedule for Heavy Duty Vehicles (UDDS) contained in 40 CFR Part 86 Appendix I, Paragraph (d), provided:

(a) The exhaust emissions results for THC, NOx and CO measured during the UDDS after conversion and when operated exclusively or in combination with the alternative fuel are no greater than .90 times the baseline emissions for THC and NOx and no greater than 1.00 times CO before conversion, except that NMHC after conversion shall be compared to the baseline THC before conversion in the case of operation exclusively with CNG, and

(b) All tests are performed in accordance with all specified protocols in 40 CFR Part 86, Subpart M, including vehicle preparation, dynamometer loading, emissions measurements and driving schedule except that commercially available fuel may be used for vehicle preconditioning and baseline testing.

4. As an alternate to engine dynamometer testing for heavy duty engine conversions under Option 3 for a specific heavy duty engine family or the alternate procedures provided in paragraph 3. above or the Addendum, any party may propose an alternate heavy duty vehicle or engine test procedure which operates the subject test engine through a range of engine speed and load conditions reasonably representative of both urban and highway driving, measures the exhaust emissions specified above on a grams per mile or grams per brake horsepower-hour basis and specifies appropriate pass/fail criteria equivalent to paragraph 3. above for the purpose of demonstrating a "reasonable basis" under EPA's tampering enforcement policy. Any such proposed procedures shall be submitted to the Director, Air Enforcement Division (2242A), Office of Enforcement and Compliance Assurance, U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460 for consideration and approval, if appropriate, under this policy prior to the initiation of any vehicle procurement, modification or testing.

5. The results of federal emissions tests conducted under Option 3 for a specific engine family may be applied as a "reasonable basis" for up to a maximum of three additional engine

families to that tested for demonstrating compliance with the applicable Tier 1 emission standards for that class of vehicle or engine as specified in 40 CFR Part 86 provided:

(a) The engine family tested in accordance with 40 CFR Part 86 meets the applicable Tier 1 standards for that vehicle or engine class with the application of the appropriate deterioration factor as provided under Option 3,

(b) The engine family tested above represents the "worst case" for emissions of the applicable engine families as based on engine or vehicle parameters reasonably expected to adversely affect the emission results such as maximum gross vehicle weight, maximum engine displacement and any other reasonable engineering judgements,

(c) The determination of "worst case" is confirmed by conducting I/M 240 emissions tests of one vehicle or engine of each applicable engine family after conversion,

(d) The results of the I/M 240 tests of the three additional engine families are no greater than the I/M 240 emission results of the original engine family tested,

(e) The additional engine families meet the criteria specified in paragraphs 3.(b)(4)B. through D. of the Addendum, and

(f) The evaporative emission control system remains as installed by the original engine manufacturer if gasoline operation is retained.

6. For both LEV and Tier 1 vehicles or engines, any additional engine families for which emission data would be carried across under paragraph 5. above or paragraph 3.(b)(4) under Option 3 of the Addendum must be produced by the same vehicle or engine manufacturer as the original engine family tested.

7. Any party responsible for demonstrating compliance, installing, converting, selling or marketing alternative fuel conversion systems in accordance with the requirements of the Addendum and this revised policy shall retain the results of all tests, installations and sales of such systems as specified under Option 3 of the Addendum or this Revision for inspection by EPA for five (5) years following completion of the testing, installing or marketing of such systems.

8. Any provisions or requirements of the Addendum not extended or revised herein remain in effect as provided in the Addendum.

C. Conclusion: EPA believes the revisions described above will provide additional flexibility and streamlining to manufacturers, installers and marketers of alternative fuel conversion systems while not jeopardizing the emission reduction purposes of the original Addendum. EPA will continue to review the progress of the industry in developing and testing of alternative fuel systems to ensure the emissions benefits are being achieved and to determine if any future revisions are necessary. Any questions regarding this revised policy should be directed to the Mobile Source Enforcement Branch at (202) 564-2255.

Bruce C. Buckheit

Bruce C. Buckheit, Director
Air Enforcement Division
Office of Enforcement and Compliance Assurance